

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1, 4, 6, 13, 22 and 29, and CANCEL claims 19-21 in accordance with the following:

1. (Currently Amended) A liquid crystal display, having a liquid crystal panel and backlights, comprising:

a signal converter to convert selectively input analogue video signals into digital video signals in synchronization with a first predetermined sampling clock signal;

a scaler to sample the digital video signals at a panel resolution in synchronization with a second predetermined sampling clock signal, and to extract a horizontal synchronization signal from the sampled digital video signals;

a panel driver to display the digital video signals on the liquid crystal panel;

a controller to detect the extracted horizontal synchronization signal from the digital video signals to determine a display mode, to output the first and second predetermined sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode, and to generate inverter on/off signals whenever the horizontal synchronization signal is transiently changed; and

a backlight driver to drive the backlights in synchronization with the detected horizontal synchronization signal and being turned on or off according to the inverter on/off signals, input from the controller,

wherein the backlight driver is turned off during a display mode change, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.

2. (Previously Presented) The liquid crystal display of claim 1, wherein the backlight driver comprises:

a pulse width modulator to generate pulse width modulation signals, which are synchronized with the horizontal synchronization signal, and to turn the pulse width modulation signals on or off according to the on/off signals generated by the controller;

a switching transformer to switch a power supply on or off according to the pulse width modulation signals; and

a radiator lamp which radiates light using the power supplied by the switching transformer.

3. (Previously Presented) The liquid crystal display of claim 1, wherein the controller generates and outputs the off signals to the backlight driver when the horizontal synchronization signal is changed.

4. (Currently Amended) A method of controlling a backlight driver to drive backlights in a liquid crystal display, comprising:

determining whether a horizontal synchronization signal transiently changes while video signals are displayed; and

applying backlight off signals to the backlight driver while the horizontal synchronization signal is changing, and until the horizontal synchronization signal is detected, and applying backlight on signals to the backlight driver when the horizontal synchronization signal is detected,

wherein the backlight driver is turned off during a display mode change, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.

5. (Previously Presented) The method of claim 4, wherein the horizontal synchronization signal begins to cause a transient effect when changed.

6. (Currently Amended) A method in which a controller controls backlights in a liquid crystal display, comprising:

controlling a backlight driver to drive the backlights in synchronization with a first horizontal synchronization signal in a digital video signal when video signals are input;

determining whether a user has changed a display mode;

inputting an off signal to the backlight driver, if the first horizontal synchronization signal is transiently changed, to control the backlight driver to not drive the backlights;

checking whether the first horizontal synchronization signal change is completed;

inputting an backlight driver on signal to the backlight driver if the first horizontal synchronization signal change is completed so as to control the backlight driver to drive the

backlights in synchronization with a second horizontal synchronization signal;
generating the backlight driver off signal until the second horizontal synchronization signal is detected; and
turning the backlight driver on or off according to the backlight driver on/off signals,
wherein the backlight driver is turned off during a display mode change, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.

7. (Previously Presented) The method according to claim 6, further comprising repeating the checking if the first horizontal synchronization signal change is not completed.

8. (Previously Presented) The method according to claim 6, further comprising initially skipping the determining, the inputting the backlight driver off signal, and the checking operations if the user has not changed the first horizontal synchronization signal.

9. (Previously Presented) The method according to claim 6, wherein the determining comprises recognizing key signals as first horizontal synchronization signal change signals if the video signals are those of a PC and are displayed when the user inputs the key signals to change the video signals.

10. (Previously Presented) The method according to claim 6, wherein the determining comprises determining whether a display mode is changed from a PC to that of a DTV.

11. (Original) The method according to claim 6, wherein the checking lasts until the second horizontal synchronization signal is generated.

12. (Original) The method according to claim 6, wherein the checking comprises determining whether the second horizontal synchronization signal exists in the video signals.

13. (Currently Amended) A method of driving backlights before, during, and after a change in a display mode, and turned on thereafter, the method comprising:
driving the backlights in synchronization with a first synchronization signal in a video signal;
determining whether the first synchronization signal has been transiently changed;

stopping the driving, if a user has changed the display mode;
checking whether the display mode change is completed;
resuming driving the backlights in synchronization with a second synchronization signal in a video signal if the display mode change is completed; and
the stopping the driving continuing until the second synchronization signal is detected,
wherein the backlight driver is turned off during the change in display mode, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.

14. (Original) The method according to claim 13, further comprising repeating the checking if the display mode change is not completed.

15. (Original) The method according to claim 13, further comprising skipping the determining, the inputting, the stopping, and the checking operations if the display mode is not changed.

16. (Original) The method according to claim 13, wherein the determining comprises recognizing key signals as display mode change signals.

17. (Original) The method according to claim 13, wherein the checking lasts until the second synchronization signal is generated.

18. (Original) The method according to claim 13, wherein the checking comprises determining whether the second synchronization signal exists in the video signal.

19-21. (Cancelled)

22. (Currently Amended) A liquid crystal display, having a liquid crystal panel and backlights, comprising:

a signal converter to convert a video signal into a digital video signal in synchronization with a first sampling clock signal;

a scaler to sample the digital video signal at a panel resolution in synchronization with a second sampling clock signal, and to extract a first synchronization signal therefrom;

a panel driver to display the digital video signals on the liquid crystal panel;

a controller to detect the synchronization signal from the digital video signal to determine a display mode, to output the first and second sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode, and to generate on/off signals whenever the synchronization signal is transiently changed; and

a backlight driver to drive the backlights in synchronization with a second synchronization signal and being turned on or off according to the on/off signals input from the controller,

wherein the controller generates the off signals until the second synchronization signal is detected, and

the backlight driver is turned off during a display mode change, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.

23. (Original) The liquid crystal display according to claim 22, wherein the controller determines a display mode.

24. (Original) The liquid crystal display according to claim 23, wherein the controller outputs the first and second sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode.

25. (Previously Presented) The liquid crystal display according to claim 22, wherein the backlight driver comprises a pulse width modulator to generate pulse width modulation signals synchronized with the first synchronization signal, and to turn the pulse width modulation signals on and off according to the on/off signals generated by the controller.

26. (Previously Presented) The liquid crystal display according to claim 25, wherein the backlight driver further comprises a switching transformer to switch a power supply on or off according to the pulse width modulation signals input from the pulse width modulator

27. (Previously Presented) The liquid crystal display according to claim 26, wherein the backlight driver further comprises a lamp to radiate light using the power supplied by the switching transformer.

28. (Previously Presented) The liquid crystal display according to claim 22, wherein the controller generates and outputs off signals to the backlight driver when the display mode is

changed, and continues generating and outputting off signals until the second synchronization signal is detected.

29. (Currently Amended) A liquid crystal display, having a liquid crystal panel and backlights, comprising:

a signal converter to convert a video signal into a digital video signal in synchronization with a first sampling clock signal;

a scaler to sample the digital video signal at a panel resolution in synchronization with a second sampling clock signal, and to extract a first synchronization signal therefrom;

a panel driver to display the digital video signals on the liquid crystal panel;

a controller to detect the synchronization signal from the digital video signal to determine a display mode, to output the first and second sampling clock signals to the signal converter and the scaler, respectively, according to the determined display mode, and to generate backlight driver on/off signals whenever the synchronization signal is transiently changed; and

a backlight driver, which is synchronized with the liquid crystal panel to avoid oscillatory interference therebetween, to drive the backlights in synchronization with a second synchronization signal and being turned on or off according to the backlight driver on/off signals input from the controller,

wherein the controller generates the backlight driver off signals until the second synchronization signal is detected, and

the backlight driver is turned off during a display mode change, and turned on thereafter, whereby the backlight driver is prevented from being turned off due to a transient horizontal synchronization signal.